

ABSTRACT OF THE DISCLOSURE

5 The apparatus forms an electric circuit on a construction member of a machine based on a set of three-dimensional data. The data defines a position and a profile of the construction member, a position of the electric circuit, and a shape of the electric circuit. The electric circuit is used for electrical connection between electric instruments mounted on the machine. The data is associated with a reference coordinate system provided in the machine, and the data includes coordinates of points for determining arrangement of the electric circuit, a distance between any two of the points adjacent to each other, and a cross-sectional area of the electric circuit associated extended between the two points. The apparatus has a storage means for storing the data, a jet means for jetting a molten metal, a first transfer means for moving the construction member relative to the jet means, and a control means for jetting the molten metal against the construction member to deposit the molten metal and for controlling the relative movement between the construction member and the jet means based on the data. The jet means can jet the molten metal against the construction member so that the molten metal can be deposited on a surface of the construction member to form the electric circuit on the construction member.